

Date: Monday, 23/02/2009 3:54:41 PM  
 User: Linda Lacelle

## Process Sheet

Ssli

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: BEARING ASSEMBLY		
Job Number	: 46031 -2		Part Number	: D3121241		
Estimate Number	: 10716		Drawing Number	: D3121 REV E		
P.O. Number	:		Project Number	: N/A		
This Issue	: 23/02/2009	S.O. No. :	Drawing Revision	: E		
Prsht Rev.	: NC		Material	:		
First Issue	: //	Type	MACHINED PARTS	Due Date	: 10/03/2009	Qty: 14 Um: Each
Previous Run	: 45867					
Written By	:					
Checked & Approved By	:					
Comment	: Est Rev:A 04.02.18 New issue KJ/DS Est Rev:B ECN 1060 07-11-12 DD verified by:EC					

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	MDELRINR12500	DELRIN ROUND BAR 1.25"	
		Comment: Qty.: 0.0546 f(s)/Unit Total : 3.2760 f(s) Material: Ø1.25 Delrin Rod (M-DELRIN-R1.2500)Identify as D3121-25 Batch: M110256	
2.0	HARDINGE	HARDINGE CNC LATHE SMALL	
		Comment: HARDINGE CNC LATHE SMALL  1-Turn D3121-25 Cap as per Folio FA387	
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE	
		Comment: INSPECT PARTS AS THEY COME OFF MACHINE	
4.0	QC8	SECOND CHECK	
		Comment: SECOND CHECK	
5.0	D312123	Bearing	
		Comment: Qty.: 1.0000 Each(s)/Unit Total : 60.0000 Each(s) Pick: Qty Part Number Description Batch 1 D3121-23 Bearing B46168	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 23/02/2009 3:54:41 PM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BEARING ASSEMBLY

Job Number: 46031

Part Number: D3121241

Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Press D3121-23 Bearing into D3121-25 Cap as per Dwg D3121

7.0 QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 225A

09/03/23 (14)

9.0 QC21

FINAL INSPECTION/W/O RELEASE



09/03/24 (14)

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 09-03-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	46031
Description: Cap	Part Number:	D3121-25
Inspection Dwg: D3121      Rev: E		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

## X First Article      Prototype

Measured by:	<i>JNL</i>	Audited by:	<i>SV</i>	Prototype Approval:	N/A
Date:	<i>09/03/01</i>	Date:	<i>09/03/03</i>	Date:	N/A

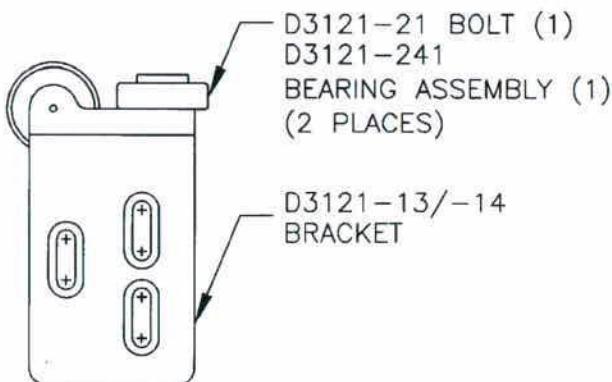
Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue (P/O D3121-241)	KJ/RF	
B	06.06.09	Ø1.000 diameter was Ø1.024	KJ/JLM	
C	08.01.16	Dwg Rev. updated	KJ/EC/DD	

**DART**

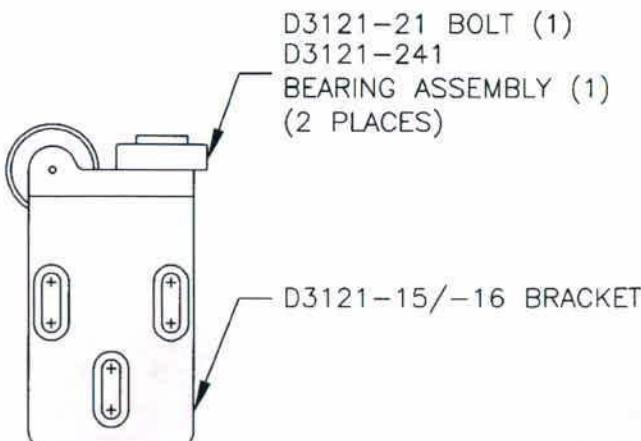
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CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3121
DATE 07.11.07	TITLE BRACKET ASSEMBLY	REV. E SHEET 1 OF 10 SCALE 1:2

**RELEASED**  
*07.11.07 WD***D3121-041 BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-33)

*WD 4631***D3121-043 (SHOWN) / D3121-044 (OPPOSITE)  
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-37/-38)

**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)  
BRACKET ASSEMBLY**

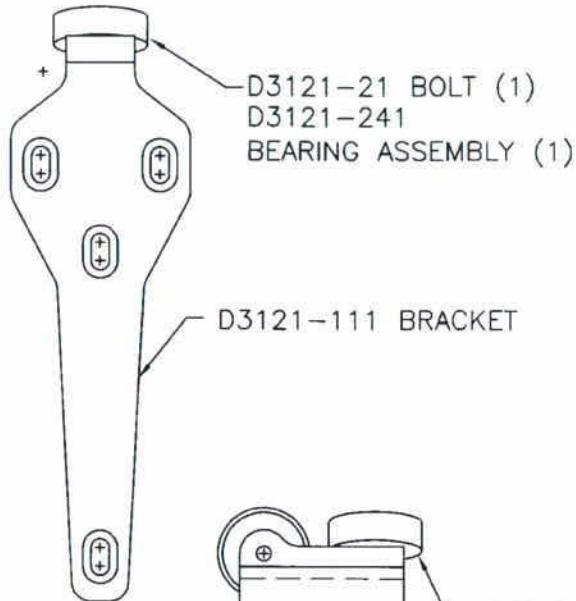
(REPLACES PREMIER P/N B30-23000-35/-36)

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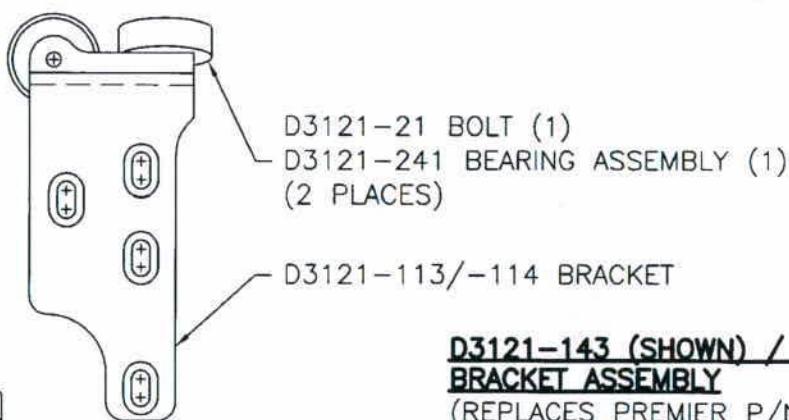
**DART**

DESIGN <i>#</i>	DRAWN BY <i>CE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3121	REV. E SHEET 2 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

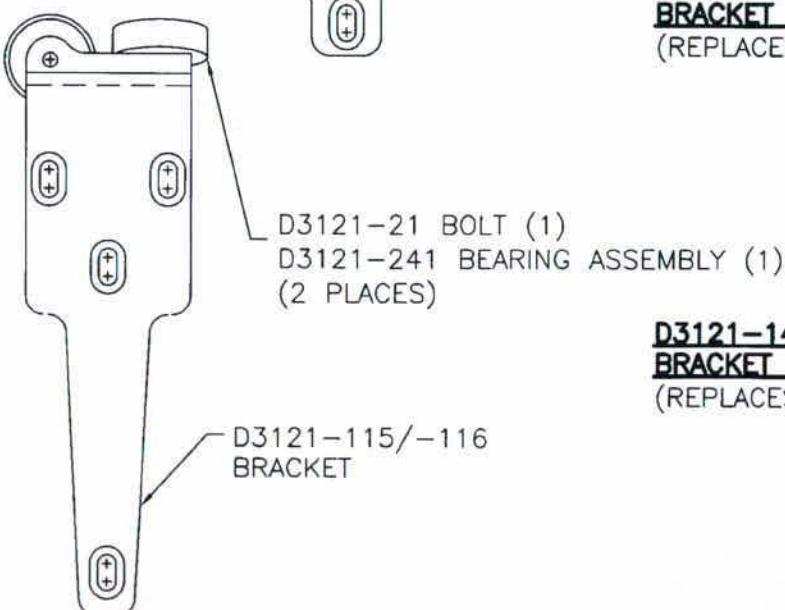


**D3121-141 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23001-01)

**RELEASED**  
*07.11.07 W*



**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-03/-04)



**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-05/-06)

*W6031*

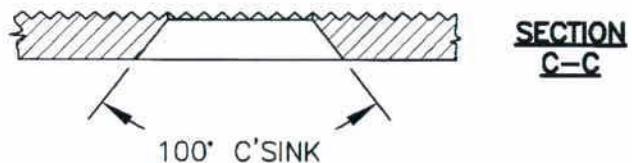
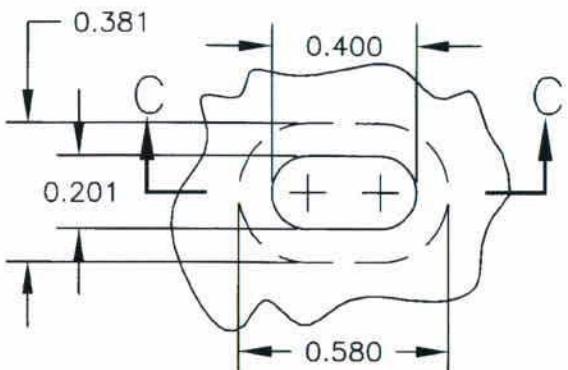
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**DART**

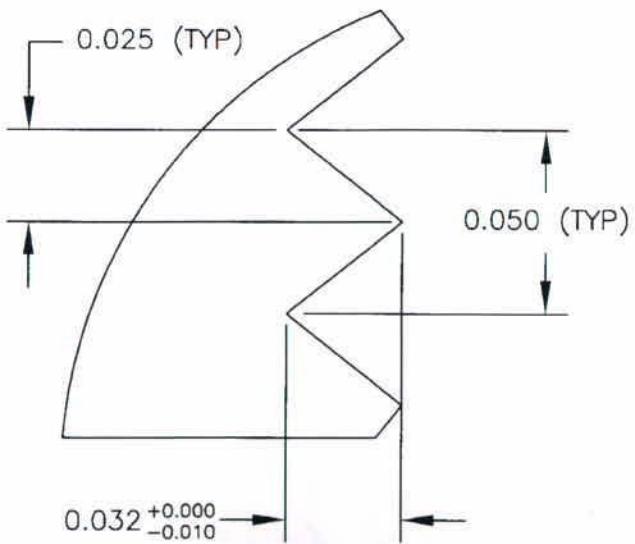
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CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3121	REV. E SHEET 3 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1

**DETAIL A:**  
**SLOT DETAIL**  
SCALE 2:1  
VIEW ROTATED



**RELEASED**  
07.11.07 *[Signature]*

**DETAIL B:**  
**RIDGE DETAIL**  
PARTIAL SECTION  
SCALE 1:20

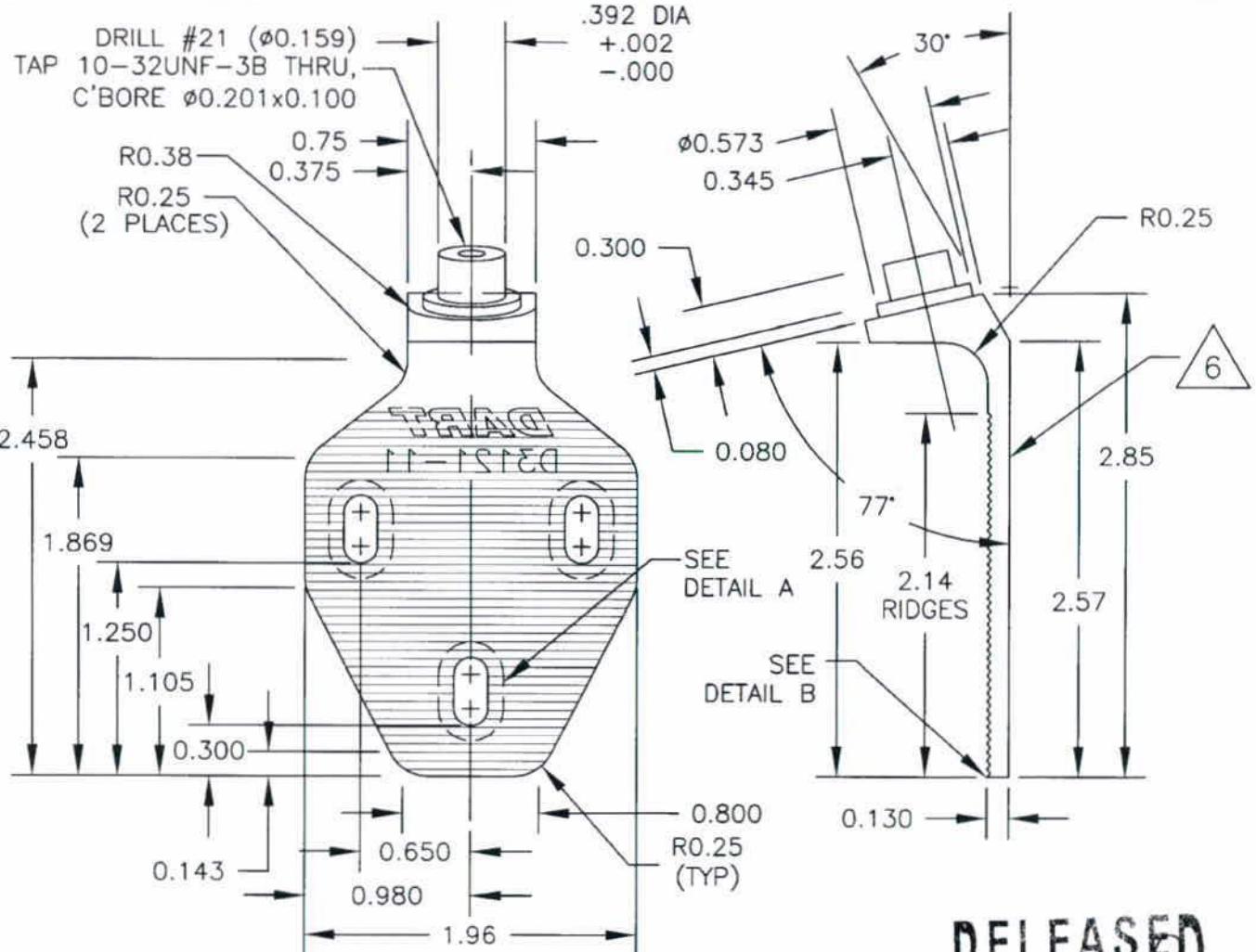


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**DART**

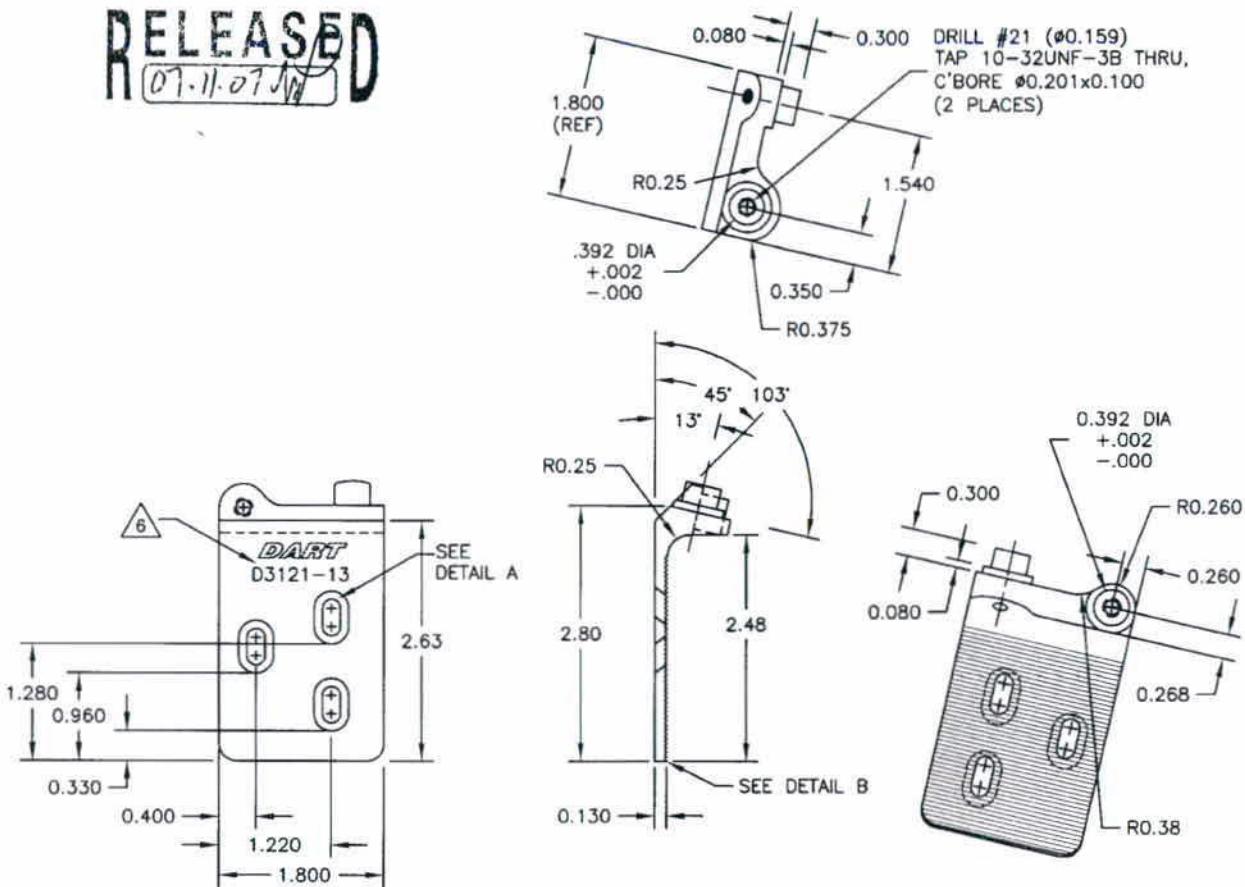
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CHECKED <i>A</i>	APPROVED <i>-H-</i>	DRAWING NO. D3121	REV. E SHEET 4 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1

**RELEASED**  
07.11.07 *MW**X6031***D3121-11 BRACKET**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

**DART**

DESIGN #	DRAWN BY <i>CE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 5 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

**RELEASED**  
07.11.07

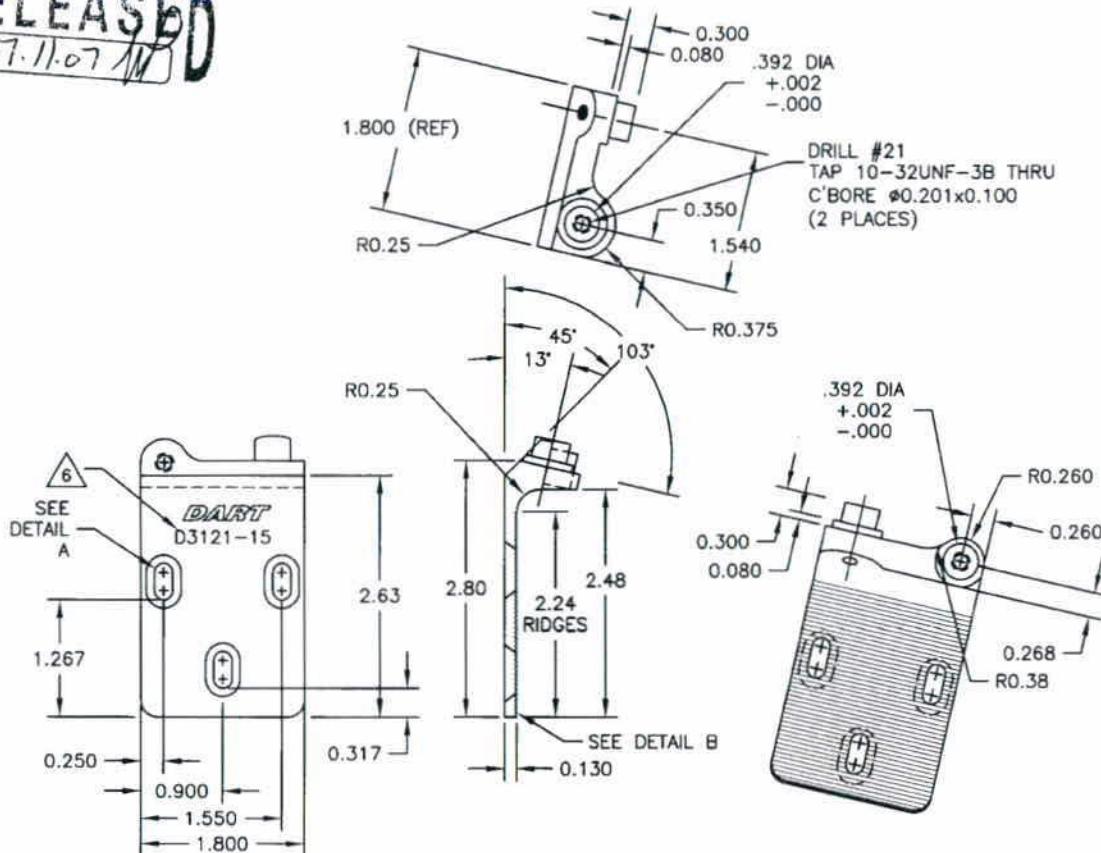
**D3121-13 BRACKET (SHOWN)**  
**D3121-14 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

*46031*

**DART**

DESIGN #	DRAWN BY <i>CE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D3121 REV. E SHEET 6 OF 10
DATE 07.11.07	TITLE BRACKET ASSEMBLY	SCALE 1:2

**RELEASED**  
*(07.11.07)*

**D3121-15 BRACKET (SHOWN)**  
**D3121-16 BRACKET (OPPOSITE)**

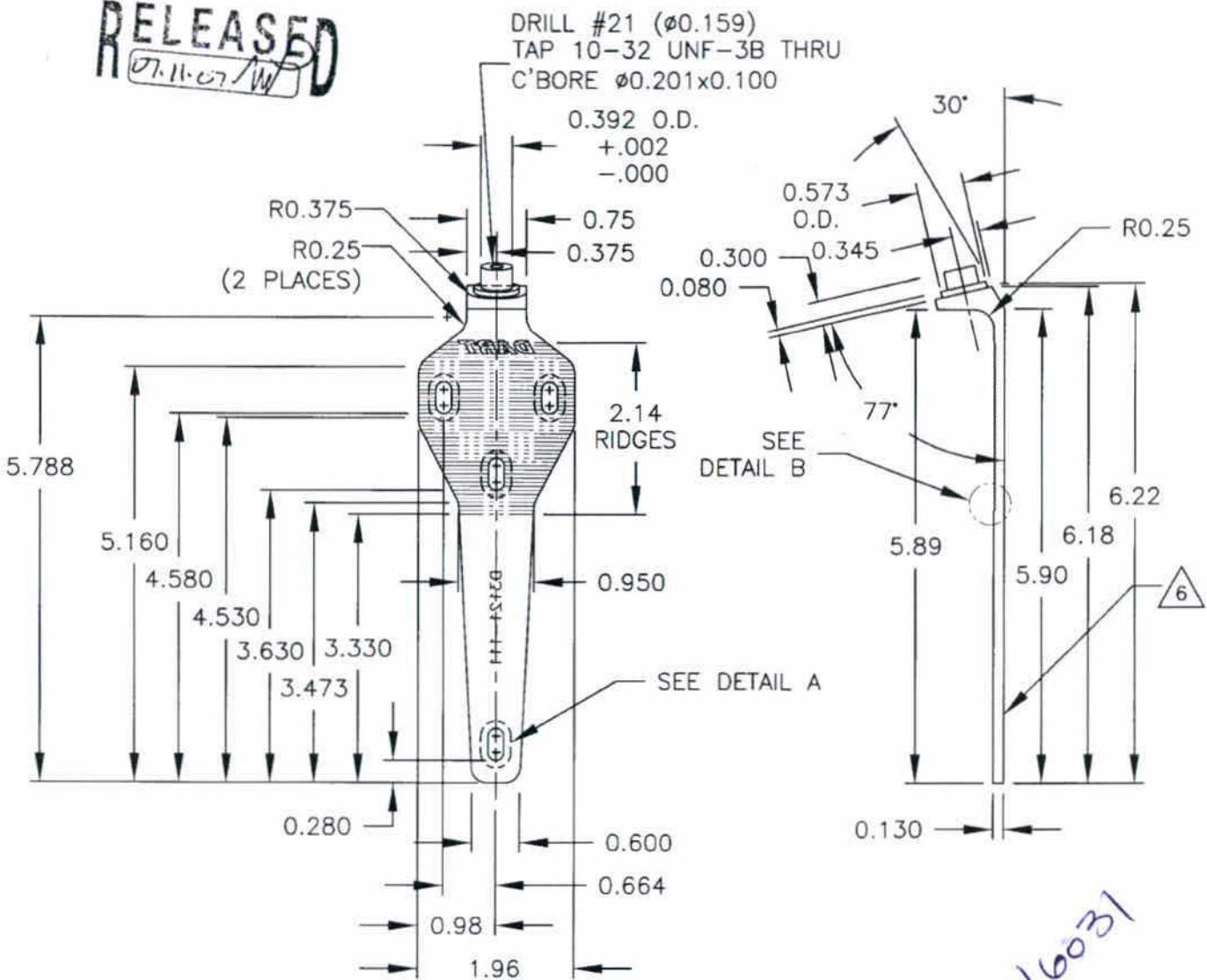
- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

*46031*



DESIGN <i>A</i>	DRAWN BY <i>CE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>A</i>	APPROVED <del><i>CE</i></del>	DRAWING NO. D3121	REV. E SHEET 7 OF 10
DATE 07.11.07	TITLE BRACKET ASSEMBLY	SCALE 1:2	

RELEASED  
07.11.07 / M



D3121-111 BRACKET

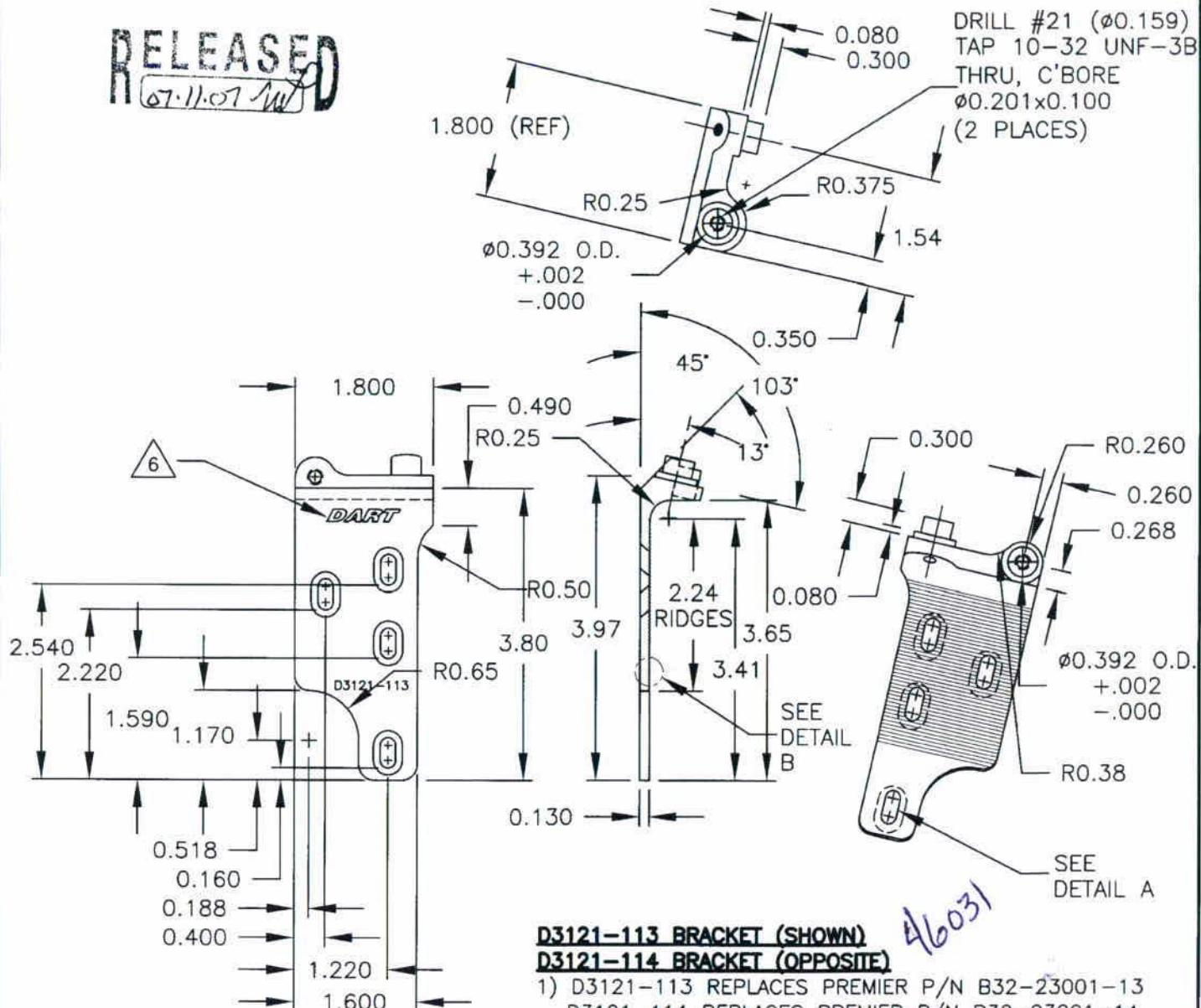
- 1) REPLACES PREMIER P/N B32-23001-11
  - 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
  - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) ALL DIMENSIONS ARE IN INCHES
  - 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
  - 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
  - 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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CHECKED <i>A</i>	APPROVED <i> </i>	DRAWING NO. D3121	REV. E SHEET 8 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

**RELEASED**  
07.11.07 *WJ*

**D3121-113 BRACKET (SHOWN)**  
**D3121-114 BRACKET (OPPOSITE)**

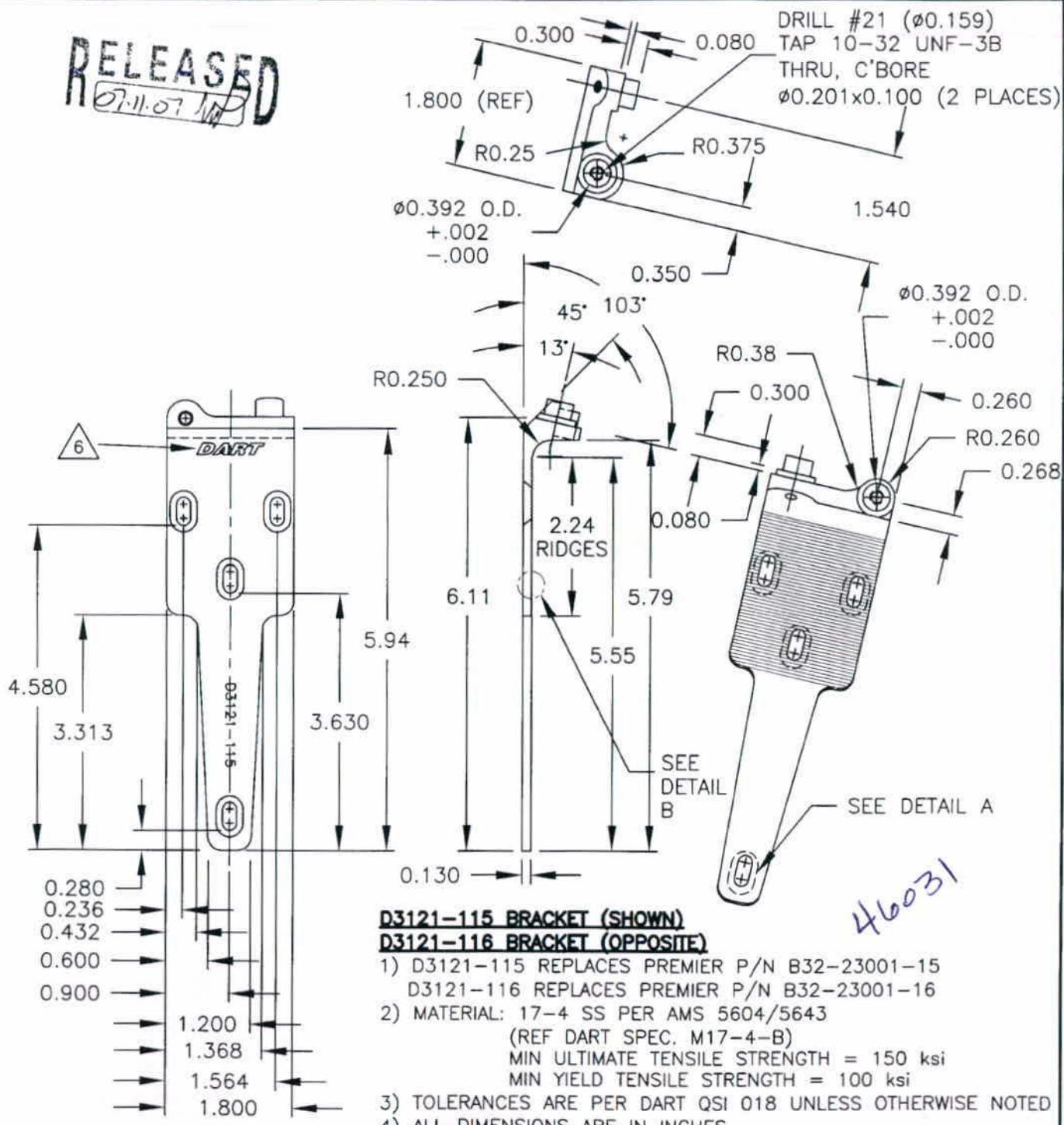
- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13  
D3121-114 REPLACES PREMIER P/N B32-23001-14  
2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi  
3) TOLERANCES ARE PER DART QSI 018 UNLESS  
OTHERWISE NOTED  
4) ALL DIMENSIONS ARE IN INCHES  
5) BREAK ALL SHARP EDGES 0.005 TO 0.015  
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN  
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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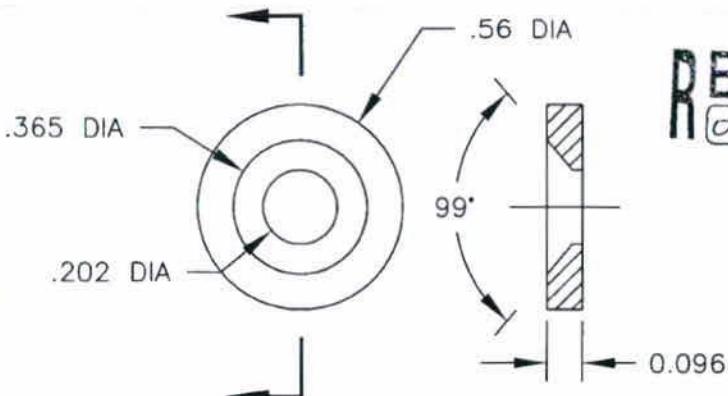
DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 9 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

**RELEASED**  
07.11.07 103**Copyright © 2002 by DART AEROSPACE LTD**

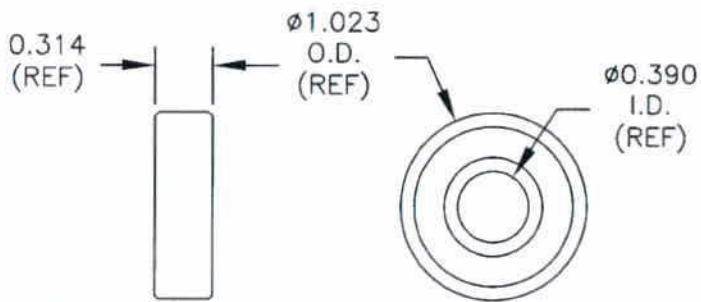
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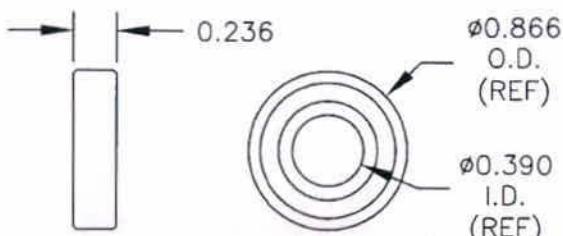
DESIGN <i>CH</i>	DRAWN BY <i>CE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>CH</i>	APPROVED <i>CH</i>	DRAWING NO. D3121	REV. E SHEET 10 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1

**D3121-17 WASHER (SCALE 2:1)**

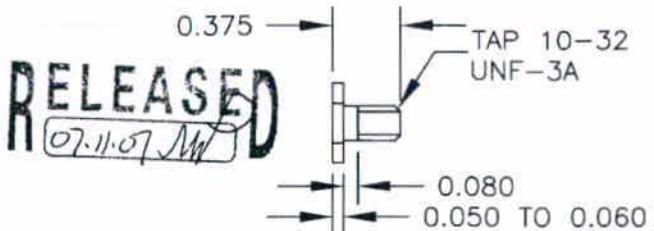
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

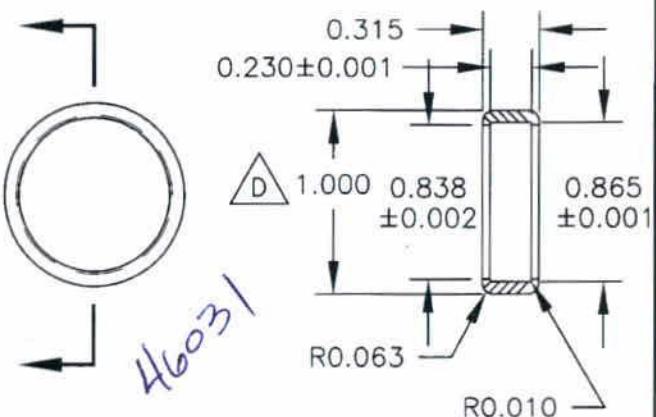
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM  
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

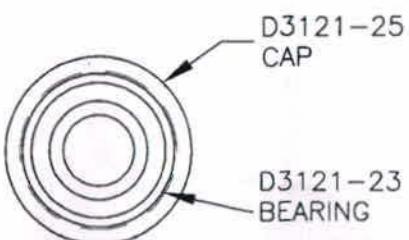
- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z  
OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-21 BOLT (SCALE 1:1)**

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**